Route 7 Traffic Flow Study

Review of Existing Conditions

Community Meetings

February 22 & 23, 2005

Purpose of Study

- Assess Existing & Anticipated Operational Deficiencies
- Make Near-Term & Mid-Term Recommendations

Study Corridor

- Route 7 between Countryside Blvd & Dranesville Rd
- Includes 8 Signalized Intersections

Study Area

Virginia Department of Transportation

VHB

We Keep Virginia Moving

Task 1 – Data Collection (Complete)

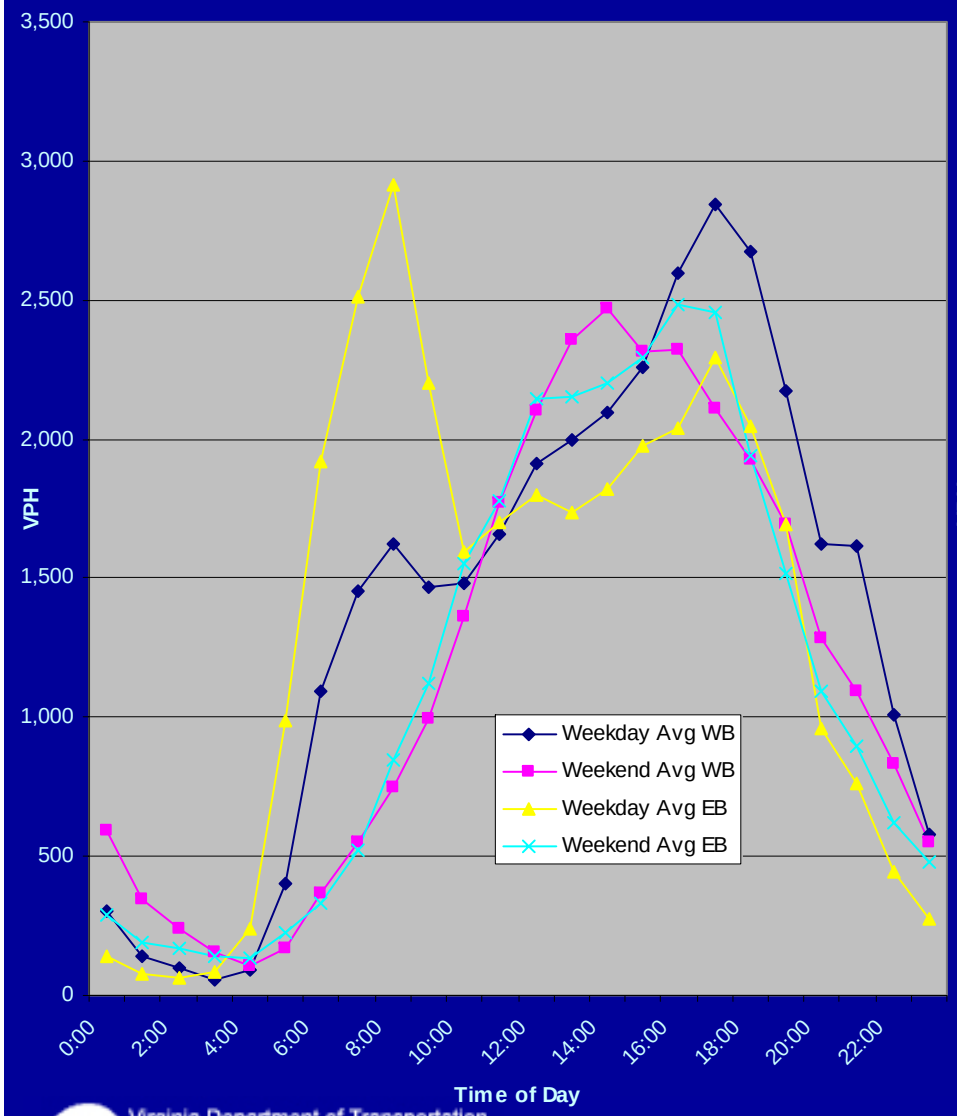
- Turning Movements – AM & PM
- Traffic Volumes – Using ATRs
- Field Reconnaissance of Existing Operating Conditions
- VDOT Provides Existing Traffic & Accident Data
- County Provides GIS & Aerial Mapping
- Reg Cooperative Forecast-Source of Land Use

Average Daily Traffic Volume Summary

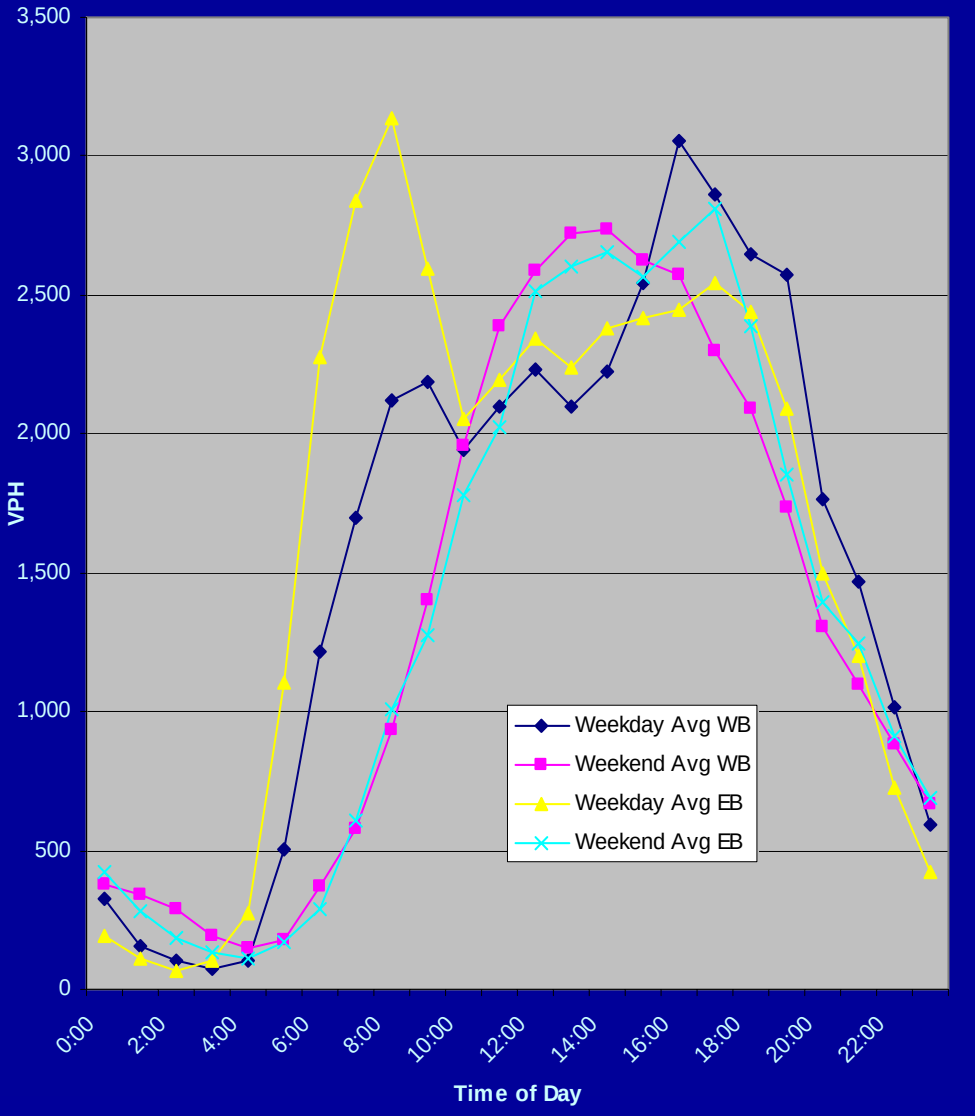
- Along Route 7

Location	Average Weekday Traffic			Average Weekend Traffic		
	EB	WB	Two-way	EB	WB	Two-way
Rte 7 West of Augusta Dr	39,700	37,600	77,300	32,600	32,500	65,100
Rte 7 East of Countryside Blvd	32,300	33,300	65,600	27,600	28,500	56,100

Route 7 East of Country Side Blvd



Route 7 West of Augusta Dr

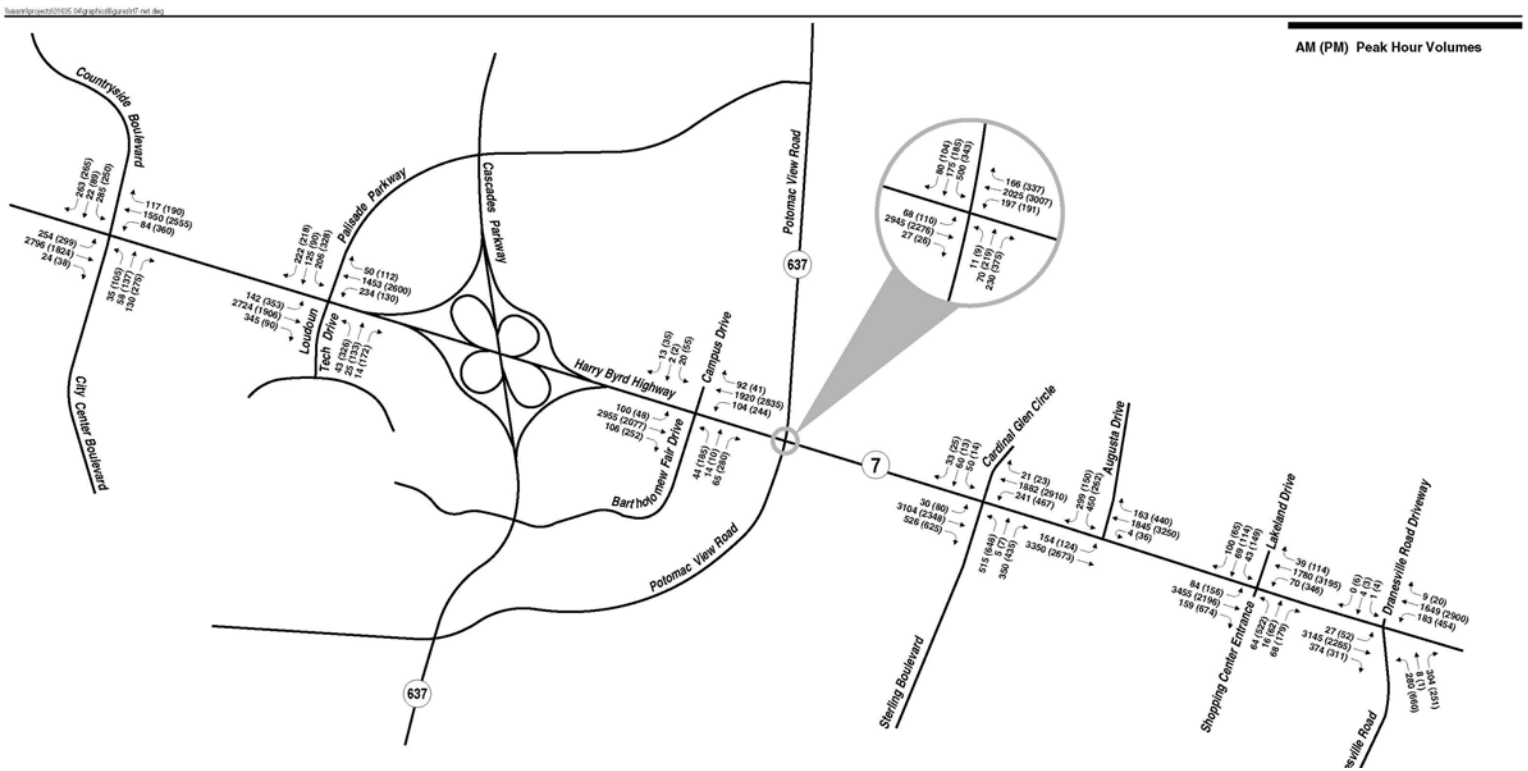


Average Daily Traffic Volume Summary

- Rte 7 / Cascades Pkwy Interchange
  - Average Daily Weekday Traffic on the ramps

	To Cascades Pkwy NB	To Cascades Pkwy SB
From Rte 7 WB	4,000	3,300
From Rte 7 EB	2,300	2,800

	To Rte 7 EB	To Rte 7 WB
From Cascades Pkwy NB	3,100	2,600
From Cascades Pkwy SB	2,600	1,100



Turning Movements – AM & PM

Travel Time Runs along Rte 7

- Between Dranesville Rd and City Center Blvd / Countryside Blvd

	EB	WB
AM Peak	5 to 7 min	4 to 6 min
PM Peak	7 to 9 min	5 to 7 min

Task 2 – Existing Conditions (On-Going)

- Traffic Operational Analyses
- Identify “Problem Locations”
- Review Accident Reports

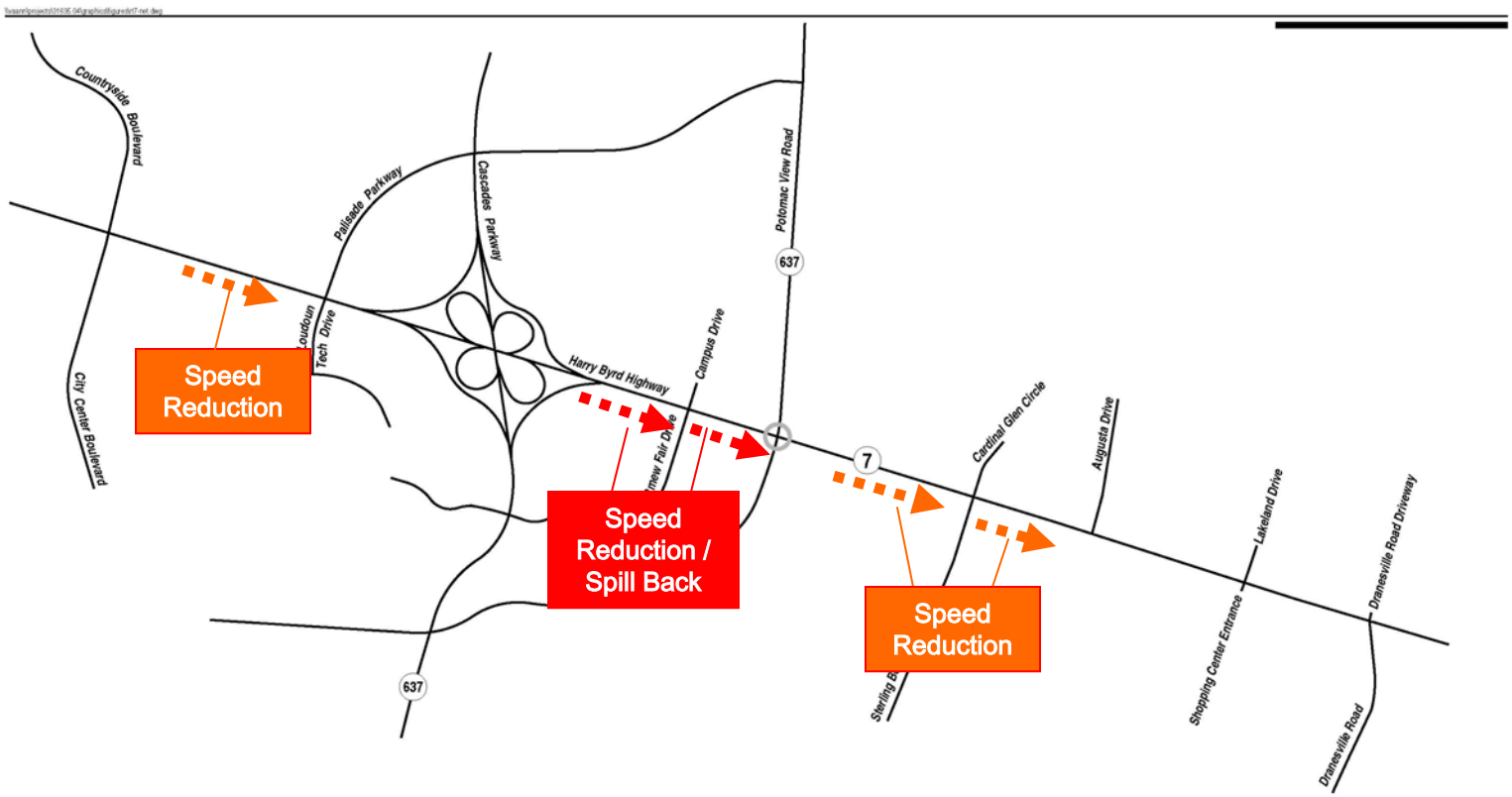
Traffic Operational Analyses

- Intersection Level of Service and Delay

		LOS		DELAY	
Main Street	**Intersection**	**AM**	**PM**	**AM**	**PM**
Harry Byrd Highway	*Dranesville Road*	B	D	13.7	38.9
	Community Plaza / Lakeland Drive	C	E	23.8	55.4
	Augusta Drive	C	B	22.0	18.0
	Cardinal Glen Circle / Sterling Boulevard	F	F	101.5	88.5
	Potomac View Road	E	D	62.3	47.9
	Bartholomew Fair Drive / Campus Drive	B	B	12.7	18.5
	Loudoun Tech Drive / Palisade Parkway	C	D	28.7	39.4
	City Center Boulevard / Countryside Boulevard	C	C	28.8	32.2

Problem Locations - AM Peak

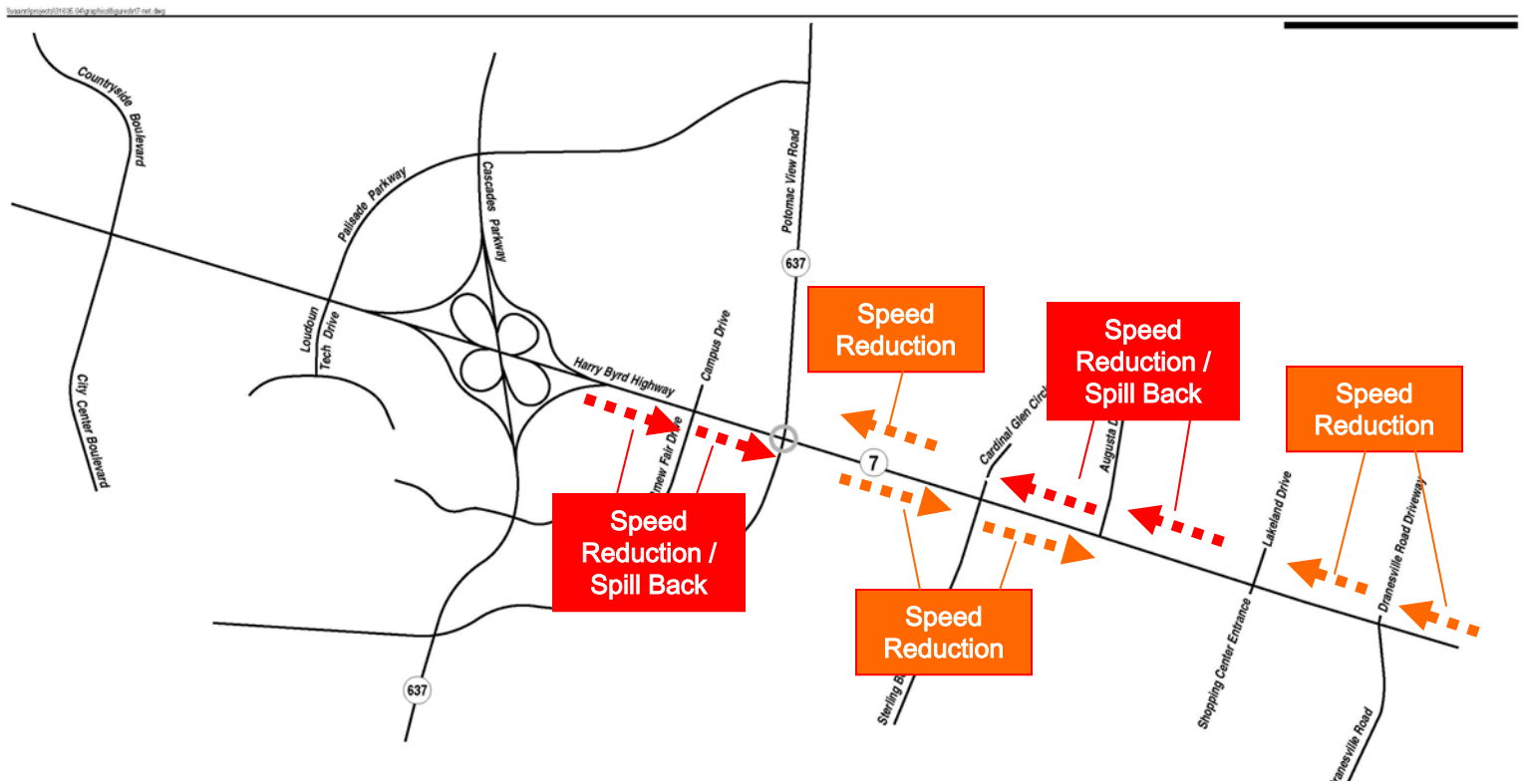
- Intersections at or above capacity
  - Rte 7 / Cardinal Glen Cir - Sterling Blvd
  - Rte 7 / Potomac View Rd
- High directional peak volume and close spacing of intersections create stop-and-go and spill back conditions along segments of EB Rte 7, particularly during the change of the signal cycle



Problem Locations - AM Peak

Problem Locations - PM Peak

- Intersections at or above capacity
  - Rte 7 / Community Plaza - Lakeland Dr
  - Rte 7 / Cardinal Glen Cir - Sterling Blvd
  - Rte 7 / Potomac View Rd
- High directional peak volume and close spacing of intersections create stop-and-go and spill back conditions along segments of WB and EB Rte 7
- Heavy interaction between shopping center access/egress trips and through trips in the vicinity of the commercial area just west of Dranesville Rd



Problem Locations - PM Peak

List of Potential Improvement Alternatives

- Reduce the number of intersections by consolidating operations at the following adjacent intersections
  - Rte 7 / Augusta Rd and
    Rte 7 / Cardinal Glen Cir-Sterling Blvd
  - Rte 7 / Potomac View Rd and
    Rte 7 / Bartholomew Fair Dr-Campus Dr

- Potential grade-separated interchange at the following intersection
  - Rte 7 / Potomac View Rd

List of Potential Improvement Alternatives (continued)

- Potential permanent (daily) or temporary (peak period) access restrictions (right in right out only) at the following intersections
  - Rte 7 / Augusta Rd
  - Rte 7 / Bartholomew Fair Dr-Campus Dr
  - Rte 7 / Loudoun Tech Dr-Palisade Pkwy
  - Rte 7 / City Center Blvd-Countryside Blvd

- Extension of frontage road on the north and south side of Rte 7 from Dranesville Rd to Signal Hill Plaza or possibly all the way to Potomac View Rd